

ERGONOMIC FIELDING GLOVE

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U. S. Patent Application of:

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## Ergonomic fielding glove

This application is based on the provisional application titled: Two finger  
baseball/softball fielding glove, file dated 02/04/99, application number: 60/118,543

### BACKGROUND OF THE INVENTION

This invention relates generally to the field of athletic equipment, and more  
particularly to an ergonomic fielding glove to be used in sports such as baseball,  
softball or the like.

Traditional four finger and three finger baseball or softball fielding gloves are  
designed along the form of an open hand. The glove is made with an outer shell  
and an inner compartment that contains the hand and positions it within the glove  
with the fingers extending into the finger slots of the outer shell. If you remove the  
glove from the hand, and view the hand as it was positioned in the glove, the thumb  
of the hand is rotated forward towards the palm at approximately 45 degrees from  
the plane of the hand and fingers. The fourth finger is also drawn forward slightly,  
positioned so that the thumb and fourth finger, when drawn towards each other, act  
to close the outer, vertical edges of the glove. The first, second and third fingers of  
the hand within the glove can close down around a ball, with a small amount of force  
but have little effect on the actual closing of the glove's outer vertical edges. The  
action of closing the glove's outer vertical edges, seals the ball inside the glove, after  
it is caught. This action is similar to closing a bare hand around a round object. The  
thumb and fourth finger close towards each other around the outside of the ball, the

three fingers between the thumb and fourth finger close over the top. This limits the main force of closure to the thumb and the fourth, or smallest finger.

The positioning of the hand within the previously designed three or four fingered baseball/softball fielding gloves, overall, forms a pocket in the palm of the hand. Within the glove the palm of the hand is centered in the pocket of the glove. Between the valley of the thumb slot and index or first finger slot of the outer shell of the glove is the web. The fixed angle between the thumb and index finger within the outer shell of the glove is approximately 55 degrees in a traditional baseball/softball fielding glove.

In these previous fielding glove designs, the only surface area of the glove where the hand is not exposed to the force of the ball striking it is the web and the extended length of each of the glove's fingers. The palm of the glove and the web are the area where most of the balls are caught within the glove. The ball is either caught entirely in the pocket, or strikes the pocket and glances up into the web, or can be caught entirely in the web. A high percentage of time the ball strikes the pocket, and consequently the palm of the hand and fingers. Players wearing a previously designed glove frequently experience bruises, swelling, pain, and in some cases more serious damage from the impact of the ball striking the glove in the pocket area. Fielders wearing these previously designed gloves often removed their index finger from within the index finger slot and placed it outside the glove, against the back of the index finger slot, to put a little more padding between their finger and the impact of the ball striking the glove. Eventually manufacturers began cutting a hole in the back of the index finger slot to accommodate removal of the index finger

from within the slot. Various padded inserts have been used to try to reduce the impact of a ball striking the pocket, and consequently the palm of the hand.

In previous baseball/softball fielding glove designs the inside of the wrist is exposed beneath the heel of the glove, below the palm. Fielders wearing a glove  
5 without wrist protection often have the experience where a ball takes an unexpected hop and instead of landing in the glove, impacts the inside of the wrist. The force of the ball impacting the inside of the wrist can be so great that it imprints the wrist with the outline of the seams of the ball after such an incident as well as attendant pain and bruising.

#### SUMMARY OF THE INVENTION

The primary object of the invention is to increase the closing pressure of a  
15 fielding glove catching a ball, decreasing the ball's tendency to pop loose when fielded or applying a tag to a base runner.

Another object of the invention is to decrease exposure and damage to the palm of the hand from the blunt force of a rapidly moving ball striking the pocket of the glove.

20 Another object of the invention is to reduce the tendency of a ball to ricochet out of the web area of the glove.

A further object of the invention is to provide protection for the inside of the wrist from a thrown or batted ball.

In accordance with a preferred embodiment of the present invention, a fielding glove comprises an outer shell having at least one finger portion, a thumb portion, and a web joining the thumb portion and the nearest finger portion; at least one interior finger compartment designed to accommodate at least one finger positioned within the outer shell; and an interior thumb compartment designed to accommodate a thumb positioned within the outer shell where the angle between the interior thumb compartment and the nearest interior finger compartment is approximately 90 degrees.

In accordance with another preferred embodiment of the present invention, a fielding glove comprises an outer shell with two finger slots, and a thumb slot, with a web in the valley between the thumb and first finger, an interior mitten compartment that holds all four fingers, positioned and fixed within the outer shell at an angle of approximately 40 degrees in relation to the upright finger slots of the outer shell of the glove, and a fixed angle between the thumb and index finger position of the interior mitten of approximately 90 degrees.

In another embodiment, the fielding glove has a padded, flexible, contiguous extension of the palm heel of the aforementioned glove's outer shell that extends over the inside of the wrist.

In a further embodiment, the fielding glove has a billowing, flexible web attached between and slightly larger than the span between the thumb and first finger of the aforementioned outer shell.

Other objects and advantages of the present invention will become apparent from the following descriptions, taken in connection with the accompanying

drawings, wherein, by way of illustration and example, an embodiment of the present invention is disclosed.

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## BRIEF DESCRIPTION OF THE DRAWINGS

The drawings constitute a part of this specification and include exemplary embodiments to the invention, which may be embodied in various forms. It is to be understood that in some instances various aspects of the invention may be shown exaggerated or enlarged to facilitate an understanding of the invention.

Figure 1 is a partially cut-away perspective view of the back side of the ergonomic fielding glove according to a preferred embodiment of the present invention.

Figure 2 is a perspective view of the front side of the embodiment of Figure 2.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Detailed descriptions of the preferred embodiment are provided herein. It is to be understood, however, that the present invention may be embodied in various forms. Therefore, specific details disclosed herein are not to be interpreted as limiting, but rather as a basis for the claims and as a representative basis for teaching one skilled in the art to employ the present invention in virtually any appropriately detailed system, structure or manner.

The following description of the preferred embodiment is for a right-handed person having the fielding glove on the left hand. It will be appreciated that the invention may be adapted to a left-handed person having the fielding glove on the right hand.

As the preferred embodiment shown in Figure 1, the geometry of the hand's position within the outer shell 17 of the fielding glove is realigned from that of the conventional glove design. The number of finger slots in the outer shell of the glove has been reduced, and in the illustrated embodiment is two. A separate mitten shaped finger compartment 16 inside the outer shell is designed to accommodate the fingers and is aligned at an angle of approximately 40 degrees in relation to the two upright finger slots 10, 11 of the glove's outer shell. The fingers of the hand are positioned inside the outer glove, within the mitten 17 and shown in Figure 1 by the dotted lines. The angle between the thumb and index finger in the mitten is approximately 90 degrees. When they close, all four fingers of the hand are moving towards the thumb and vice-versa. This movement closes the outer edge of the



outer shell outside finger 10 towards the outer edge of the outer shell thumb 12 with approximately 4 times the closing pressure of a conventional baseball/softball fielding glove. This improvement in closing leverage, reduces the tendency of the ball to escape the glove when catching a thrown or hit ball, or when applying a tag to a base runner. The more force applied to closure the less likely the ball will pop loose.

The angle between the thumb and index finger within the ergonomic fielding glove is increased from approximately 55 degrees in a traditional baseball/softball glove to approximately 90 degrees. The increased angle between the thumb and index finger within the interior mitten, as well as the fact that all four fingers are now closed together rather than widely separated by the individual finger slots of a traditional glove, increases the area of the pocket where there will be no impact on the hand.

This new ergonomic design increases the volume of the pocket and web area, and reduces the surface area that exposes the palm and fingers to damage from a high velocity, hard ball striking the palm in the pocket of the glove by approximately 30%. The potential damage to the palm or fingers of the hand is greatly lessened. This design reduces the tendency of the ball impacting and damaging the palm of the hand or the fingers because there is additional room to catch the ball within the web and pocket area where the palm is not exposed.

Turning to the billowing web15 in the preferred embodiment, it has a star shape with a central disk 14 and strands that radiate out to the interior edges of the outer shell thumb and first finger. The star web also has s a bridge of material 13

that spans the upper edge of the thumb and first finger. It could also employ a standard web drawn from the many varieties in the public domain. The billowing web 15 allows for a netting effect to trap the ball and reduce ricochet. The billowing is accomplished by making the web 15 of a flexible material slightly larger than the space within the plane between the first finger of the outer shell and the thumb. The star web 15 would have a donut shaped ring 14 of leather or other appropriate material in the center of the web, with the legs of the web being a leather or other appropriate material that looped around the donut, then radiated back to the edges of the glove in a star pattern.

The lower heel area of the glove is expanded by adding a flap 18 of padded leather or other material, that covers the inside wrist area below the palm. This preferred embodiment is a contiguous extension of the heel of the outer shell held in place when the glove is worn, by an adjustable strap 19 that wraps around the wrist. **The strap is fastened by a hook and loop fastener, or a velcro fastener or other appropriate mechanism**

In the preferred embodiment as displayed, **within the thumb slot of the mitten is an adjustable thumb strap 19 of leather or other appropriate material for added leverage and comfort of a particular size hand. A similar strap is located on the outer edge of the mitten compartment 18 to accommodate one or more fingers for a similar purpose as described for the thumb. In the preferred embodiment, it is shown enclosing the third and fourth fingers.**

While the invention has been described in connection with a preferred embodiment, it is not intended to limit the scope of the invention to the particular

form set forth, but on the contrary, it is intended to cover such alternatives, modifications, and equivalents as may be included within the spirit and scope of the invention as defined by the appended claims.

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